DoD Coral Reef Protection and Management Program

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U.S. NAVY

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DoD CRTF goals are to:

- Ensure sustainable use of marine resources for DoD operations and training exercises.
- Identify and map locations of DoD coral reef ecosystems.
- Inventory and monitor coral resources and tropical near-shore environments.
- Provide expertise for conducting required assessments for installation integrated natural resources management plans.
- Provide marine ecological training for active duty DoD divers.
- Support U.S. Coral Reef Task Force initiatives.
- Promote interagency cooperation.
- Promote DoD stewardship, education and public outreach.

Basic Project Concept

Navy divers can be trained to assist in conducting simple reef monitoring using established methods and digital photography

WHY???

- **save Navy money**
  - **while increasing funding for the Navy dive program**

- **increase educational training and experience opportunities for Navy divers**

- **give DoD "knowledge superiority" in ecological issues involving DoD property**
  - **rapid response to problems**
  - **cleanup of debris –proactive**
  - **monitoring data to document status of environment**
    - **document natural patterns e.g coral bleaching**

Training to be planned annually as a ½ day session as part of the NAVFAC Ocean facilities curriculum for construction divers at the Navy Dive School, Panama City, FL

Guantanamo Bay, Cuba

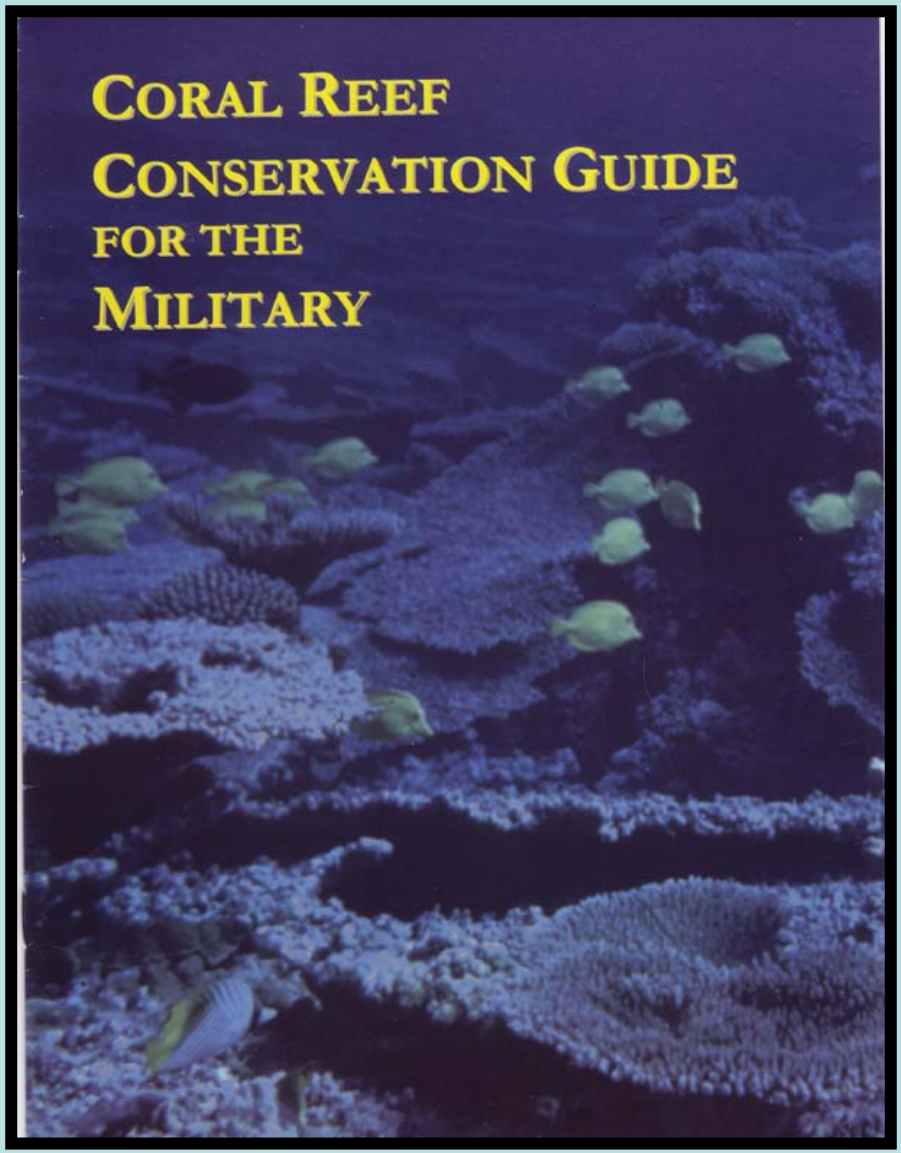
training Navy divers in reef surveys and rapid ecological assessment

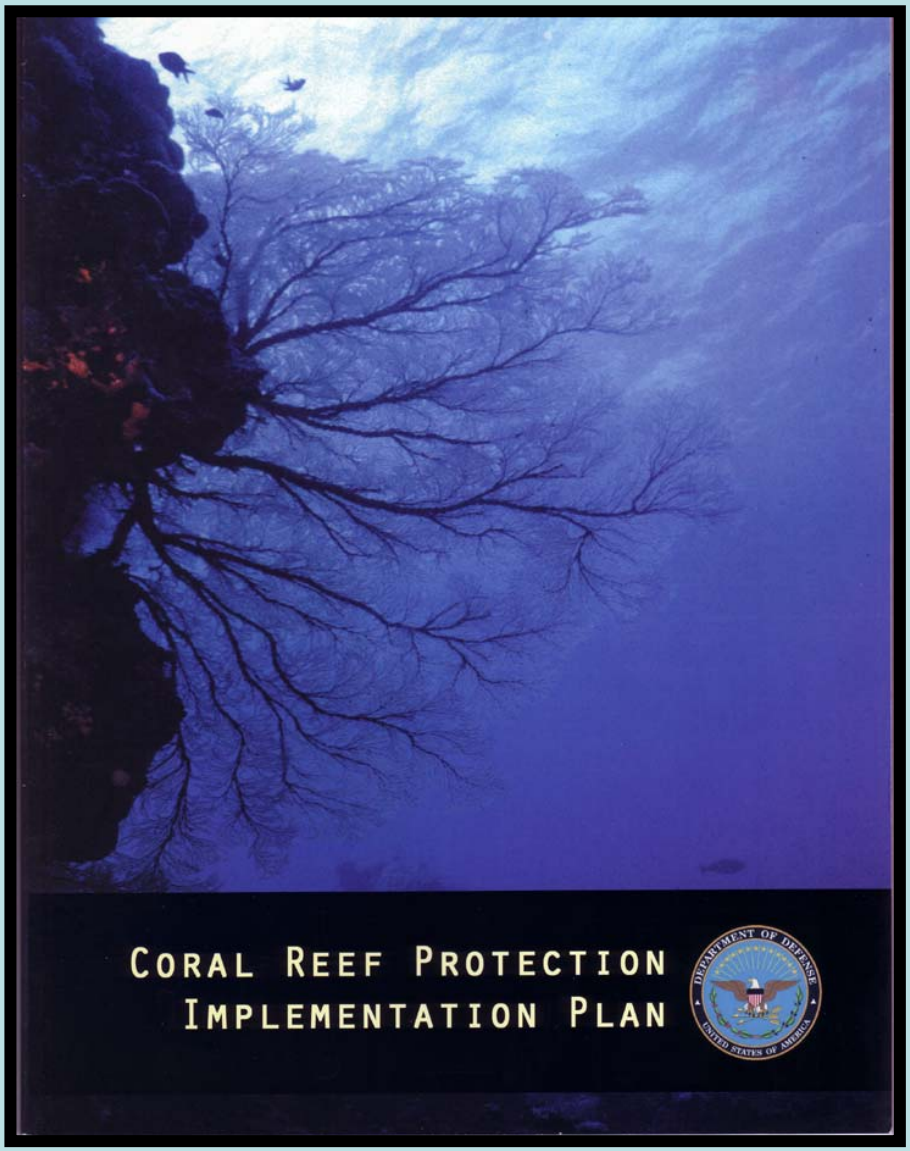
training also conducted so far for Navy divers Norfolk, VA and Honolulu, HI.

Navy's Coral Reef Awareness Training and the "Undersea Warrior".

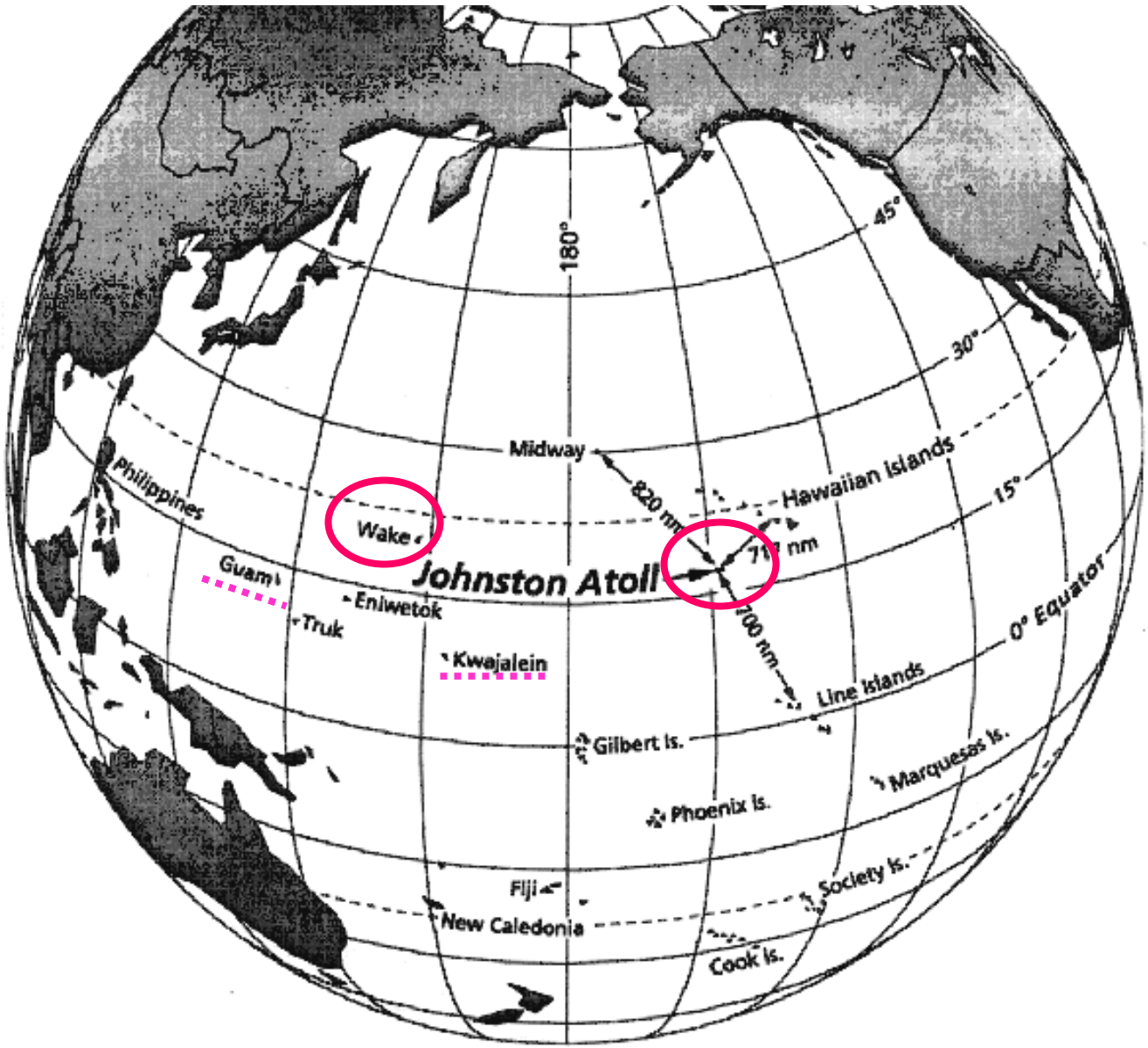
- **What is the value of underwater ecological training to the modern "Undersea Warrior"?**
- **The question is "Of what value is learning underwater ecology and survey protocols to a navy diver whose primary training and obligation is to support the War mission"**
- **The general answer is "the smarter a diver is with regard to the underwater environment, the more survivable that diver will be".**
- **Consider, for example, the possibility that mines can be camouflaged as corals. Can the diver tell the difference between a live coral and one that is fake? Booby traps succeed when one is careless or more likely; less skilled in visually detecting a fake object concealing an explosive (for example, rocks, stumps, etc). Underwater, the next generation of concealed mines may be made to blend in with the natural surroundings, such as corals.**

DoD guideline documents advising US military about coral reef issues





DoD"s exclusive atoll properties in the Pacific Ocean




Johnston Atoll

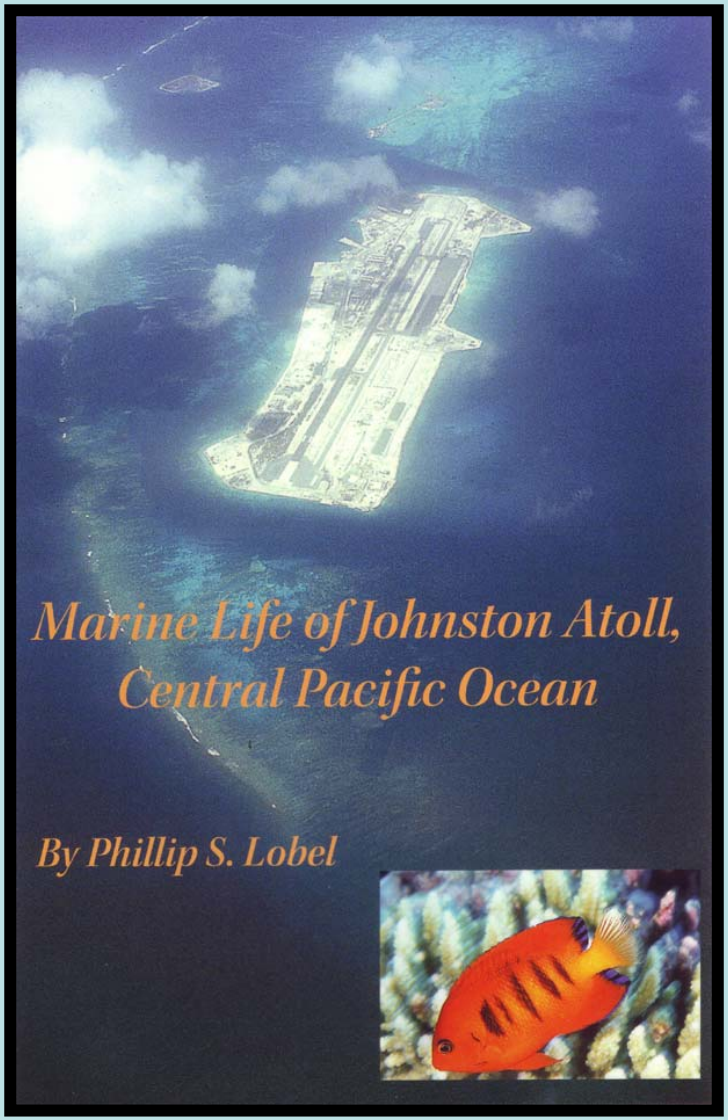
Johnston Atoll Ocean Science Study

Ecological Risk Assessment for the Nearshore Marine Environment Adjacent to the Former Herbicide Orange Storage Site: Characterization of Exposure and Ecological Effects

Phillip S. Lobel & Lisa M. Kerr
Boston University
Marine Biological Laboratory
Woods Hole, MA 02543

DRAFT Technical Report submitted to USAF Pacific, Army PMCD, DSWA, EPA Region 9, NOAA CRC, NOAA NMFS & USFWS.

FY 2004 publications describing the "state of the atoll" after ~70 years of military operations



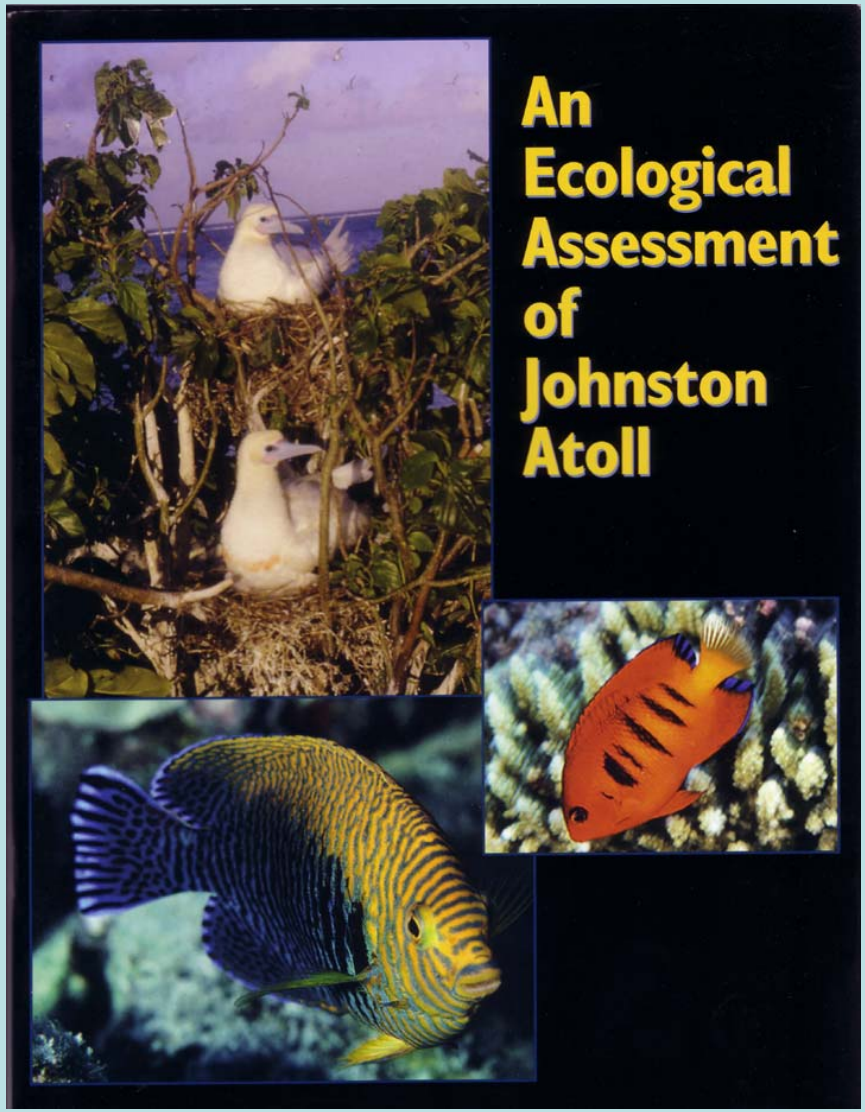


Photo by Mark Ingoglia, USAF

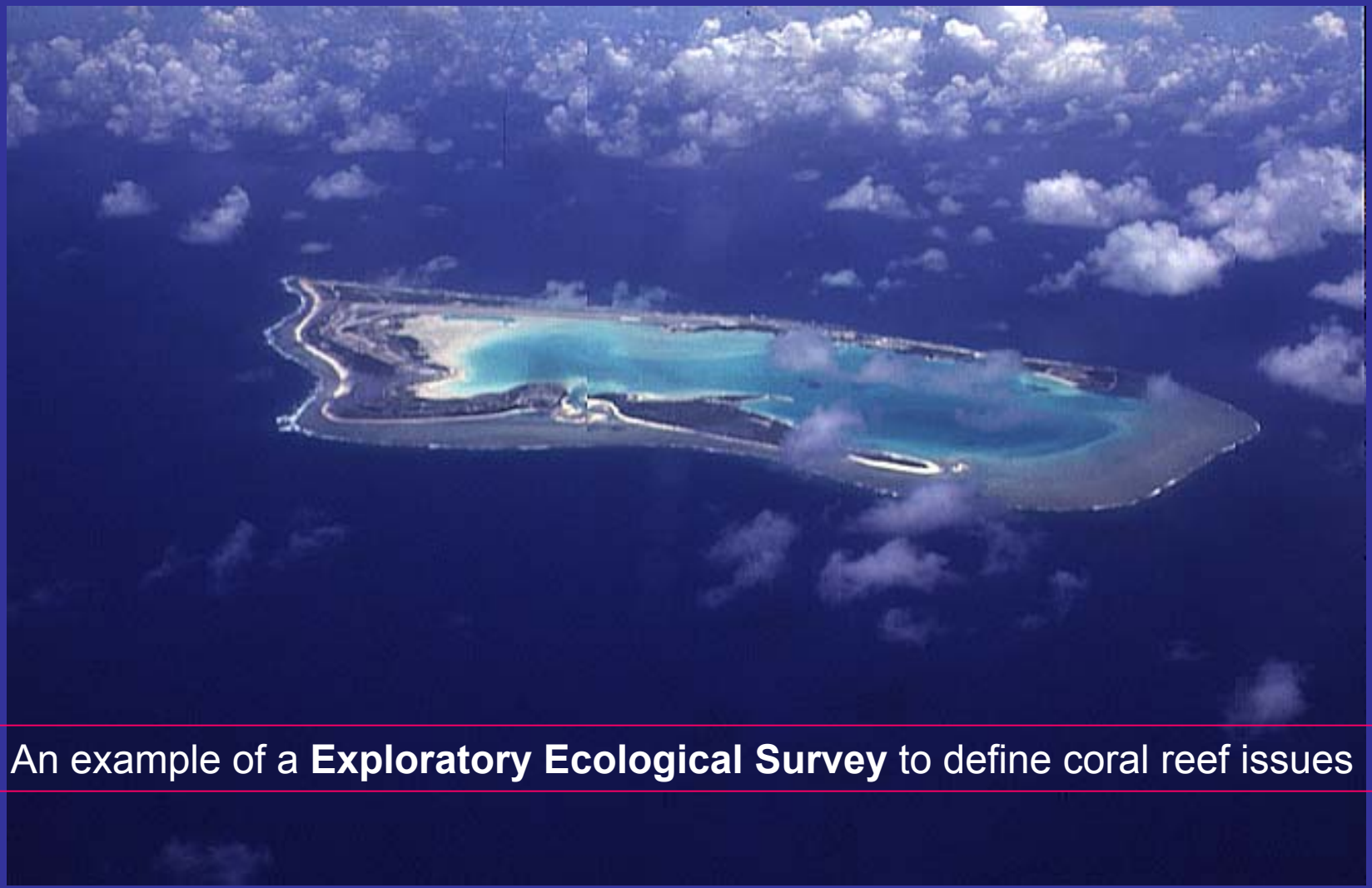
Johnston Island, June 2004 – completely abandoned, all but one building removed

Johnston Atoll

because of DoD protection
still has large fishes but what will happen when DoD abandons the base?

Wake Atoll

although a major military base since before WWII,
we conducted the first comprehensive reef surveys there in 1997 and 1999



An example of a **Exploratory Ecological Survey** to define coral reef issues

Pacific Science (2004), vol. 58, no. 1:65–90

Annotated Checklist of the Fishes of Wake Atoll[1]

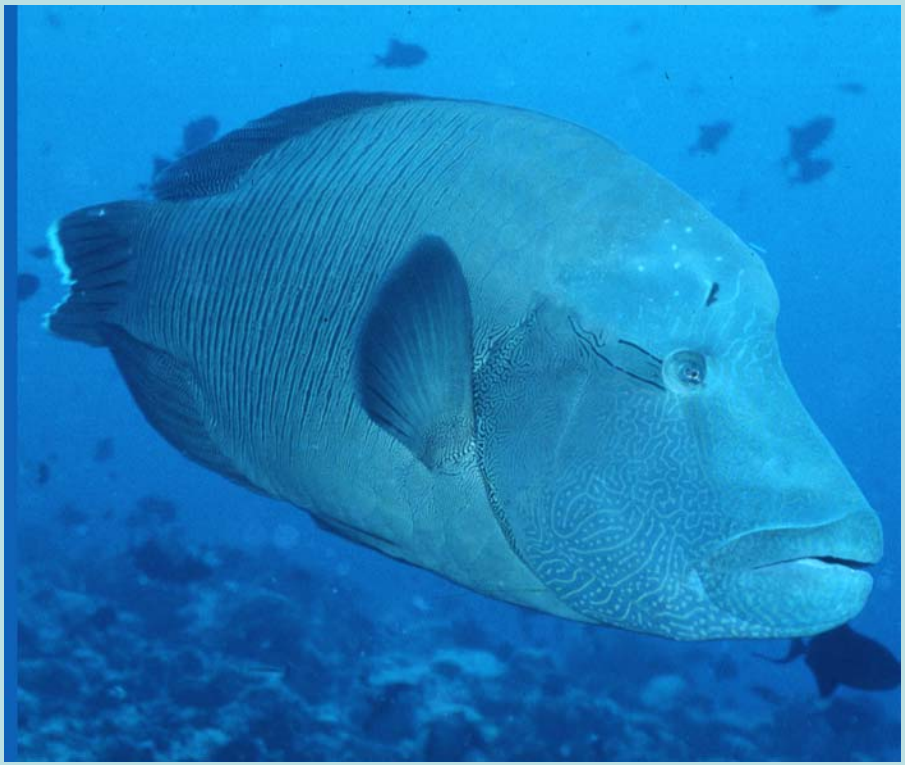
Phillip S. Lobel[2] and Lisa Kerr Lobel[3]

Abstract: This study documents a total of 321 fishes in 64 families occurring at Wake Atoll, a coral atoll located at 19° 17′ N, 166° 36′ E. Ten fishes are listed by genus only and one by family; some of these represent undescribed species. The first published account of the fishes of Wake by Fowler and Ball in 1925 listed 107 species in 31 families. This paper updates 54 synonyms and corrects 20 misidentifications listed in the earlier account. The most recent published account by Myers in 1999 listed 122 fishes in 33 families. Our field surveys add 143 additional species records and 22 new family records for the atoll. Zoogeographic analysis indicates that the greatest species overlap of Wake Atoll fishes occurs with the Mariana Islands. Several fish species common at Wake Atoll are on the IUCN Red List or are otherwise of concern for conservation. Fish populations at Wake Atoll are protected by virtue of it being a U.S. military base and off limits to commercial fishing.

- **We found an additional 143 fish species not known previously from the atoll.**
- **One new species has been described,**
- **A few others are being evaluated as possibly new species.**
- **Several fish species are abundant here and on the IUCN Red list elsewhere**

Similarly, when we first surveyed Johnston Atoll in 1983, our fishes checklist reported an additional 88 new fish species records.

Threatened species abundant at Wake



new species discovered

Xyrichthys halsteadi, Randall & Lobel 2003

DoD Coral Reef Protection and Management Program

questions? contact
Phil Lobel at ***plobel@bu.edu***

Draft documents

Coral Reef Protection Guidelines For DoD Vessels & Installations

– *advice for commanders*

Department of Defense (DOD) Reef Assessment Program Protocols

– *these will become the standard DoD methods for field studies*